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UNITED STATES DISTRICT COURT  
 NORTHERN DISTRICT OF CALIFORNIA

THE NVIDIA GPU LITIGATION	)	<u>CLASS ACTION</u>
	)	
	)	Case No. C 08-4312 JW
	)	
	)	SECOND AMENDED CONSOLIDATED
	)	COMPLAINT
	)	
This Document Relates To:	)	DEMAND FOR JURY TRIAL
C 08-4332; C 08-4596; C 08-5081; C 08-	)	
5082; C 08-5179; C 08-5217; C 08-5520; C	)	
09-0260; C 09-0328	)	
	)	

SECOND AMENDED CONSOL. COMPLAINT		
Case No. C 08-4312 JW		

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1 Plaintiffs Todd Feinstein, Brian Robinson, Inicom Networks, Inc., Steven Nakash, and  
 2 Lance Waidzunas, individually and on behalf of all others similarly situated, by their  
 3 undersigned counsel, allege the following upon personal knowledge as to their own acts and  
 4 upon information and belief as to all other matters, which is likely to have evidentiary support  
 5 after the opportunity for further investigation and discovery.

#### 6 **NATURE OF THE ACTION**

7 1. Plaintiffs bring this action against defendant NVIDIA Corporation (“NVIDIA” or  
 8 the “Company”) on behalf of those who purchased at retail a computer equipped with a defective  
 9 NVIDIA graphics processing unit (“GPU”) and/or media communications chip (“MCP”)  
 10 (collectively the “NVIDIA GPUs” and “Class Computers”).

11 2. Defendant has admitted its NVIDIA GPUs are defective. Defendant knew or  
 12 should have known of the defect prior to selling or placing the NVIDIA GPUs into the stream of  
 13 commerce.

14 3. NVIDIA’s defective GPUs cause consumers’ computers to underperform, to  
 15 display corrupted images (including distorted images, lines, garbled characters, and artifacts), to  
 16 overheat, and even to suffer complete monitor/display and system failure.

17 4. NVIDIA is aware of hundreds (if not thousands) of consumer reports and  
 18 complaints about the graphics, video, heat and performance problems plaguing the Class  
 19 Computers.

20 5. The NVIDIA GPU defect manifests itself in all Class Computers to varying  
 21 degrees. For example, under normal use the defect causes the Class Computers to generate  
 22 excessive heat, which forces the system fan to run more often, increasing ambient noise and  
 23 reducing battery life. Excessive heat also affects other internal components like the CPU, which  
 24 will “throttle down,” decreasing overall system performance. The defect results in the inability  
 25 of Plaintiffs and Class members to use their Class Computers for their intended purposes.



**THE PARTIES**

12. Plaintiff Todd Feinstein (“Feinstein”) is a citizen of Louisiana. In April of 2008, Plaintiff Feinstein purchased a MacBook Pro computer containing an NVIDIA GPU. Plaintiff Feinstein’s notebook has and continues to show signs of the NVIDIA GPU defect, including that the notebook operates at excessively hot temperatures, has a screen which is fuzzy and displays only grey or black at certain times, and periodically shuts down entirely without warning. At the time of purchase, Plaintiff Feinstein was not aware of the defect complained of herein, and as a result, Plaintiff Feinstein has suffered injuries and damages in a manner similar to other Class members.

13. On September 26, 2008, Plaintiff Feinstein’s counsel sent a letter to NVIDIA on behalf of Plaintiff Feinstein and all those similarly situated by certified mail, return receipt requested, demanding that NVIDIA immediately correct, repair, replace, or otherwise rectify the problems alleged herein, or that it remunerate consumers for these problems. NVIDIA has failed to respond.

14. Plaintiff Brian Robinson (“Robinson”) is a citizen of California. During the Class Period, Plaintiff Robinson purchased a Hewlett-Packard (“HP”) notebook computer containing an NVIDIA GPU. Plaintiff Robinson’s notebook has and continues to show signs of the NVIDIA GPU defect, including abnormal heat and display and system failure. At the time of purchase, Plaintiff Robinson was not aware of the defect complained of herein, and as a result, Plaintiff Robinson has suffered injuries and damages in a manner similar to other Class members.

15. Plaintiff Inicom Networks, Inc. (“Inicom”) is a citizen of New Mexico. During the Class Period, Plaintiff Inicom purchased a Dell Latitude D630 notebook computer containing an NVIDIA GPU. Plaintiff Inicom’s notebook has and continues to show signs of the NVIDIA GPU defect, including abnormal heat and temperatures, a loud high speed fan noise after installing the BIOS upgrade and a complete failure of the video display. At the time of purchase,

1 Plaintiff Inicom was not aware of the defect complained of herein, and as a result, Plaintiff  
2 Inicom has suffered injuries and damages in a manner similar to other Class members.

3 16. Plaintiff Steven Nakash is a citizen of New Jersey. During the Class Period,  
4 Plaintiff Nakash purchased a Dell-manufactured Vostro 1700 Notebook Computer equipped with  
5 an NVIDIA GPU. Plaintiff Nakash's notebook has and continues to show signs of the NVIDIA  
6 GPU defect, including intermittently shutting down and a screen that displays only pink or grey  
7 at certain times. At the time of purchase, Plaintiff Nakash was not aware of the defect  
8 complained of herein, and as a result, Plaintiff Nakash has suffered injuries and damages in a  
9 manner similar to other Class members.

10 17. Plaintiff Lance Waidzunas is a resident of Illinois. During the Class Period,  
11 Plaintiff Waidzunas purchased a HP Pavilion Notebook Computer equipped with an NVIDIA  
12 GPU. Plaintiff Waidzunas' notebook has and continues to show signs of the NVIDIA GPU  
13 defect, including abnormal heat and temperatures and video display problems. At the time of  
14 purchase, Plaintiff Waidzunas was not aware of the defect complained of herein, and as a result,  
15 Plaintiff Waidzunas has suffered injuries and damages in a manner similar to other Class  
16 members.

17 18. Defendant NVIDIA is a Delaware corporation with its headquarters and principal  
18 place of business at 2701 San Tomas Expressway, Santa Clara, California, and offices  
19 throughout Asia, Europe and the Americas. NVIDIA designs, develops and markets three  
20 dimensional (3D) graphics processors and related software. The Company's products provide  
21 interactive 3D graphics to the mainstream personal computer market. NVIDIA is the second  
22 leading producer of GPUs worldwide (as of the second quarter of fiscal 2008), controlling 31.4  
23 percent of the market.

## 24 **FACTUAL ALLEGATIONS**

25 19. Defendant NVIDIA manufactures and sells graphics processing units and media  
26 communications chips. NVIDIA's GPUs and MCPs are used in computers manufactured and  
27 sold by computer companies, like HP, Dell and Apple.

20. To understand the defect alleged herein, it is helpful to first examine the integral parts and processes involved, including the Class Computer's graphics display process and the structure and operation of the GPU.

21. Every computer contains a Central Processing Unit ("CPU"). The CPU is the "brain" of the computer and oversees and controls every programming function. To operate properly, the CPU must connect with the other internal components of the computer. The CPU connects to these other internal components through the computer's "motherboard." The motherboard is the main circuit board and houses the CPU, memory, graphics, sound and other processors and components. See Figure 1 below.

**FIGURE 1**



### **The Graphics Processing Unit or "GPU"**

22. For a computer to display images and video on the display monitor, the CPU sends data to the GPU, which is connected to the computer's motherboard. The GPU's function is to process the data and output images to a display.

23. The GPU is the primary processor responsible for rendering graphics on the computers at issue. A GPU is designed specifically for performing complex mathematical and geometric calculations that are necessary for graphics rendering. To protect the fragile GPU from damage, the GPU is placed into a chip package, or chip carrier. The chip package is then either mounted or soldered onto the motherboard. See Figure 2 below.

**FIGURE 2**

### **GPU and Heat Control**

24. The GPU produces a large amount of heat during normal operation and is therefore usually located next to a heat sink or system fan. A heat sink is an object placed on or near the graphics processor that absorbs and dissipates the heat emanating from the GPU. The system fan operates in the same way a domestic cooling fan does and cools down the immediate environment surrounding the GPU. *See* Figure 3 below.

**FIGURE 3**

25. Typically, microchips are produced in large batches on a single wafer of electronic-grade silicon. The wafer is then cut into many pieces, each containing one copy of the circuit. Each of these pieces is called a “die.” As explained more fully below, the die component of the NVIDIA GPUs is not robust enough to withstand normal operation.

### **HP Confirmed the NVIDIA GPU Defect in an Internal Investigation**

26. HP conducted an investigation into suspected defects in its laptops containing the NVIDIA GPUs. HP’s investigation identified 24 models affected by the defect and pinpointed



1 some of the symptoms manifested by the defective NVIDIA GPUs. NVIDIA subsequently  
2 admitted to a defect in its NVIDIA GPUs in its July 2, 2008 Form 8-K, filed with the SEC.

3 27. When NVIDIA first designs and manufactures a GPU, it tests that GPU for  
4 operating reliability. NVIDIA should have been aware of the defects from the routine tests  
5 before the GPUs were shipped to OEM manufacturers.

### 6 **Consumer Complaints Concerning the Defective NVIDIA GPUs**

7 28. Because of the defect, consumers who purchased Class Computers containing  
8 these NVIDIA GPUs experienced display problems and system crashes as evidenced by the  
9 hundreds (if not thousands) of consumer complaints on the Internet.

10 29. Excerpts from some of these consumer complaints are set forth below:<sup>1</sup>

11 <b>Model Number and Source</b>	<b>Comments</b>
12 13 Dell Vostro 1510 14 <i>Bit-tech.net</i> 15 May 2008	Here I have a <b>brand new</b> Dell Vostro 1510 laptop. It has 2.0GHz CPU and Geforce 8400M GS 256MB graphics card. I am worried about the graphics card and CPU temperatures. While browsing the internet GPU temperature is about 62-63C and CPU temp is about 52-55C. These temperatures were about 15-20C less on my Inspiron 6400.
17 Apple 18 <i>Apple.com</i> 19 July 2008	My GPU is always way hotter than my CPU even when I'm running very basic applications.... Now, I know that Nvidia has reported problems with some of their mobile GPU, but no details as of which GPUs are affected. Did anyone else notice the same problem?
20 ECS 21 <i>Theinquirer.net</i> 22 July 2008	<b><i>We have two Nvidia products here that have failed too. Namely, an ECS laptop that uses an Nvidia GPU</i></b> (can't remember which though ... 7300, 8300 or 8400. I'm not the one using the laptop and can't check it now because the thing's not displaying anything). <b><i>Service personnel say the graphics chip went AWOL.</i></b> Also, I have an Nvidia based mobo (MSI K9N Neo-F, Nvidia MCP 550) that has also gone the way of the dodo. <b><i>Service says it must be the chipset. Mobo goes nuts when it's been on for a while and heat has built up, so maybe</i></b>

26  
27 <sup>1</sup> Emphasis added. Edited for readability purposes.

1		<i>the Nvidia chip packaging is the culprit</i> there too.
2	Dell <i>Theinquirer.net</i> July 2008	FINALLY! <i>Someone has written about how I'm NOT crazy, and it IS Nvidia's fault that my laptop died.</i> If anyone cares, it was a Dell, not an HP. Too bad I sold the parts because no one believed me (even though it was the absolute truth). <i>There needs to be a criminal investigation on this ... Nvidia is screwing people over.</i>
3		
4		
5		
6	Dell XPS M1330 <i>Theinquirer.net</i> July 2008	Well this explains why both of my m1330's dell laptops have both had their GPU's die and required motherboard replacements within the first 4 months (8400gs integrated on motherboard). <i>And why there are a million threads on the m1330 dying the same way, graphics go corrupt/vertical lines on screen.</i>
7		
8		
9		
10	Dell Vostro 1400 <i>Notebookreview.com</i> July 2008	I believe I have a defective graphics card and was wondering if you guys could give me some help in finding out for sure and some possible solutions ... the display is split in to six parts all showing the desktop. This happens even when I start the computer, it will show the same display on the BIOS loading screen, even also in safe mode. I have installed and uninstalled my graphics card drivers for the 8400gs which didn't work, I have reset all my services and settings to their factory settings which didn't work either. All other hardware on my laptop seems to be working. <i>Problems with the graphics first started a month when I noticed that the graphics card would now idle at about 60 degrees C instead of its normal 45-50 degrees C range.</i> It really got messed up when I was playing a game of America's army and the display just completely froze and then everything got a weird pinkish hue then it just crashed. It doesn't even show the bsod when it crashes it just simply freezes and then restarts. I have heard claims about defective graphics cards but was under the impression that Dell Vostros weren't affected.
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22	MacBook Pro <i>Macrumors.com</i> August 2008	<i>Starting yesterday, it seems that my GPU is dying. Every now and then my screen will either freeze or have particles all over.</i> I just tried booting up to WoW and it froze with particles.... I'm really disappointed that I've only had this laptop for a little over a year putting extremely limited stress to it. I have not purchased AppleCare for it either.
23		
24		
25		
26		What's should I do? I would really appreciate any help with this. <i>It's crazy that I've been reading these stories about GPUs dying in Macbook Pros last week and BAM! Mine has to bite the dust as well.</i>
27		
28		

<p>Dell Vostro 1400  <i>Notebookreview.com</i>  August 2008</p>	<p><b><i>Is my graphics card dying?</i></b> I own a Dell Vostro 1400 (8400M Version). Just lately it's gone a little crazy. I push the power button, the <b><i>blue Dell logo comes up and loads, but instead of filling the whole screen, the screen is split up into six parts!</i></b> I have six of the Dell logos on my screen! This continues onto the Windows loading screen, which after it restarts and does exactly the same thing. <b><i>It does run abnormally hot (has done ever since I brought it)</i></b>, so I don't know if that has anything to do with it? Any ideas? Is my graphics card dead?</p>
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### NVIDIA Admits Its GPUs Are Defective, But Fails to Institute a Recall

30. In its July 2, 2008 Form 8-K NVIDIA admitted to a defect in the NVIDIA GPUs:

On July 2, 2008, NVIDIA Corporation stated that it would take a \$150 million to \$200 million charge against cost of revenue to cover anticipated customer warranty, repair, return, replacement and other consequential costs and expenses ***arising from a weak die/packaging material set in certain versions of our previous generation MCP and GPU products used in notebook systems.*** All newly manufactured products and all products currently shipping in volume have a different and more robust material set.

***The previous generation MCP and GPU products that are impacted were included in a number of notebook products that were shipped and sold in significant quantities.*** Certain notebook configurations of these MCP and GPU products are failing in the field at higher than normal rates. While we have not been able to determine a root cause for these failures, testing suggests a weak material set of die/package combination, system thermal management designs, and customer use patterns are contributing factors. ***We have developed and have made available for download a software driver to cause the system fan to begin operation at the powering up of the system and reduce the thermal stress on these chips. We have also recommended to our customers that they consider changing the thermal management of the MCP and GPU products in their notebook system designs.*** We intend to fully support our customers in their repair and replacement of these impacted MCP and GPU products that fail.

(Emphasis added).

31. On the same day, NVIDIA issued a press release and provided a "Second Quarter Fiscal 2009 Business Update" wherein the Company again admitted to the defect and stated the following:

Company Lowers Financial Outlook for Second Quarter and Plans to Take One-Time Charge for Certain Notebook Field Failures

\* \* \*

1 Separately, NVIDIA plans to take a ***one-time charge from \$150 million to***  
 2 ***\$200 million*** against cost of revenue for the second quarter to cover  
 3 anticipated warranty, repair, return, replacement and other costs and  
 4 expenses, arising from a weak die/package material set in certain  
 5 versions of its previous generation GPU and MCP products used in  
 6 notebook systems. Certain notebook configurations with GPUs and MCPs  
 7 manufactured with a certain die/package material set are failing in the  
 8 field at higher than normal rates. To date, abnormal failure rates with  
 9 systems other than certain notebook systems have not been seen. NVIDIA  
 10 has initiated discussions with its supply chain regarding this material set  
 11 issue and the Company will also seek to access insurance coverage for this  
 12 matter.

13 Regarding the notebook field failures, NVIDIA president and CEO Jen-  
 14 Hsun Huang stated: Although the failure appears related to the  
 15 combination of the interaction between the chip material set and system  
 16 design, we have a responsibility to our customers and will take our part in  
 17 resolving this problem....”

18 \* \* \*

19 Huang added, This has been a challenging experience for us. However, the  
 20 lessons we’ve learned will help us build far more robust products in the  
 21 future, and become a more valuable system design partner to our  
 22 customers. ***As for the present, we have switched production to a more***  
 23 ***robust die/package material set and are working proactively with our***  
 24 ***OEM partners to develop system management software that will provide***  
 25 ***better thermal management to the GPU.***

26 (Emphasis added).

27 32. NVIDIA’s announcements failed to specify which GPU and MCP products or  
 28 computers were defective.

33. Although Defendant admits the NVIDIA GPUs are defective, remarkably,  
 NVIDIA has failed to take any steps to make Plaintiffs and Class members whole. Defendant  
 has failed to recall the defective NVIDIA GPUs and send Plaintiffs and Class members non-  
 defective NVIDIA GPUs with a “more robust material set” at NVIDIA’s expense.

34. EE|Times, a well-respected electronics industry newspaper, reported on July 2,  
 2008 that according to an email from an NVIDIA spokesman, Defendant NVIDIA denied the  
 need for a recall:

“We didn’t recall any chips.... We’ve replaced the products. We’ve  
 changed our packaging and ***we’ve developed and distributed a software***  
***driver to help avoid the failures.***”

35. Although NVIDIA changed its manufacturing and design techniques to remedy its products on a going-forward basis, it failed to take proper corrective measures with respect to the NVIDIA GPUs that were previously purchased by consumers.

36. NVIDIA also consistently attempted to shift the blame away from itself and onto its suppliers, laptop manufacturers and, preposterously, consumers. Indeed, in the July 2, 2008 Form 8-K, NVIDIA stated, “testing suggests a weak material set of die/package combination [*i.e.* its suppliers], system thermal management designs [*i.e.* the laptop manufacturers], and customer use patterns [*i.e.* consumers] are contributing factors.”

37. Similarly, EE|Times reported on July 2, 2008 that “NVIDIA ... pointed the finger at one of its foundry partners: Taiwan Semiconductor Manufacturing Co. Ltd.” in an e-mail first explaining the defect problem. NVIDIA states in the e-mail that the “packaging was supplied by TSMC.”

38. The July 2, 2008, article by EE|Times reported that NVIDIA then later retracted its position:

Then, in another e-mail, Nvidia did an about-face. “Bottom line: We take responsibility for this,” the Nvidia spokesman said. “We worked closely with TSMC on packaging and the material.”

\* \* \*

“With regards to TSMC, we are not ‘blaming’ TSMC,” the Nvidia spokesman said in the second e-mail. “Also, to be clear, the material set was co-qualified between [Nvidia] and TSMC.”

39. A July 9, 2008, article posted on TheInquirer.com, a website focusing on technological processes and current events in the electronics field, states:

The short story is that ***all the G84 and G86 parts are bad. Period. No exceptions. All of them, mobile and desktop, use the exact same ASIC***, so expect them to go south in inordinate numbers as well. There are caveats however, and we will detail those in a bit.

\* \* \*

Basically, ***NV [NVIDIA] seems to have told each analyst a highly personali[z]ed version of the story, and stonewalls everyone else who asks. Why? The magnitude of the problem is huge.*** If Dell and HP hold their feet to the fire, anyone want to bet that \$200 million won’t cover it?

1 This has all the hallmarks of things the SEC used to investigate in a time  
before government was purchasable.

2 The other problem is the long tail. Failures occur due to heat cycling, cold  
-> hot -> cold for the non-engineers out there. If you remember, we said  
3 all G84s and G86s are affected, and all are the same ASIC, so why aren't  
4 the desktop parts dying? They are, you are just low enough on the bell  
curve that you don't see it in number that set off alarm bells publicly yet.

5 Laptops get turned on and off many times in a day, and due to the power  
management, throttle down much more than desktops. This has them  
6 going through the heat cycle multiple times in a day, whereas desktops  
typically get turned on and off once a day, sometimes left on for weeks at  
7 a time. Failures like this are typically on a bell curve, so they start out  
slow, build up, then tail off.

8 Since laptops and desktops have a different "customer use patterns", they  
9 are at different points on the bell curve. Laptops have got to the, "we  
can't bury this anymore" point, desktops haven't, but they will -  
10 guaranteed. ***The biggest question is whether or not they will be under  
warranty at that point, not whether or not they are defective. They are.***

11 (Emphasis added).

12 40. NVIDIA issued another press release on August 12, 2008 reporting results for the  
13 second quarter of Fiscal 2009, and stating:

14 During the second quarter of fiscal 2009, NVIDIA recorded a \$196  
15 million charge against cost of revenue to cover anticipated customer  
warranty, repair, return, replacement and associated costs arising from a  
16 weak die/packaging material set in certain versions of our previous  
generation MCP and GPU products used in notebook systems.

17 41. This press release further confirms the existence and widespread nature of the  
18 defect.

19 42. On or about August 25, 2008, NVIDIA held its yearly NVISION convention at  
20 the San Jose Centre for Performing Arts. According to news reports, angry consumers protested  
21 outside the NVISION show to highlight NVIDIA's failure to address known problems with its  
22 defective GPUs. An NVIDIA spokesman said to reporters:

23 "The truth is ... our obligations to our partners limit what we can say. We  
24 need to leave announcements to our partners like Dell and HP.... I know  
25 there's frustration, and it would make my job easier if I could give out the  
facts that I know, but we have obligations to our partners. We discuss it  
26 constantly, and ***the company would like to be more upfront about this -  
but we can't be.***"



43. On or about October 9, 2008, another computer manufacturer, Apple, admitted certain of its notebook computers contained the defective NVIDIA GPUs.

44. Had Plaintiffs and Class members known about the defect, they would not have purchased Class Computers with defective NVIDIA GPUs.

**NVIDIA Fails to Recall the Defective GPUs and Provides OEMs with “Fixes” to Hide and Delay the Defect**

45. Instead of recalling the defective NVIDIA GPUs, NVIDIA has provided its OEMs such as Dell, Acer and HP, inadequate remedies and other purported “fixes,” which hide, delay and in some instances, exacerbate the problems caused by the defect.

46. For example, on July 25, 2008, Dell announced on its Direct2Dell.com website that it was providing a “software update” for some, but not all, Dell notebooks containing the defective NVIDIA GPUs. This purported “solution” consisted of a BIOS update, which would force the computer’s fan to run more frequently (or continuously) in an effort to control the excessive heat caused by the defect:<sup>2</sup>

Earlier this month, sites like Ars Technica and ZDNet blogged about NVIDIA’s statement regarding a potential issue with some of NVIDIA’s Graphics Processing Units (GPUs) used in notebooks. According to NVIDIA, these affected GPUs are experiencing higher than expected failure rates causing video problems. Though this issue is not unique to Dell, some of these affected GPUs are used in certain Dell laptops....

*The issue is a weak die/package material set, which may fail with GPU temperature fluctuations.* If your GPU fails, you may see intermittent symptoms during *early stages of failure* that include:

- Multiple images
- Random characters on the screen
- Lines on the screen
- No video

Dell recommends that you flash your system BIOS (see links in the table below). *Each of these BIOS updates listed in the table below modifies the fan profile to help regulate GPU temperature fluctuations.*

(Emphasis added.)

<sup>2</sup> “BIOS” stands for Basic Input Output System. The BIOS is computer instruction code that assists in identifying and initializing the computer’s component hardware.

47. Similarly, HP offered consumers through its website a “BIOS update”. The update fails to repair or replace the defective components and shifts repair responsibilities to Plaintiffs and Class members.

48. Many Class members are likely unaware of the BIOS update or are unable (or unwilling) to perform a BIOS update. Experts consider BIOS updates extremely dangerous, because any problems experienced during a BIOS update typically result in an unusable computer.

49. These BIOS updates are also fraught with complications, cause new or additional problems and are merely temporary band-aids meant to forestall the manifestation of major problems. As HP admits:

The new BIOS release for your notebook PC is preventative in nature to ***reduce the likelihood of future system issues***. The BIOS updates the fan control algorithm of the system, and ***turns the fan on at low volume while your notebook PC is operational***.

50. The BIOS updates cause the computer’s fan to run continuously. Although the BIOS update may lower the thermal stress on the defective NVIDIA components by running the system fan constantly, consumers experience a decrease in notebook battery life, increase in system noise, and decrease in computer life – manifesting further defects in the already defective computers.

51. NVIDIA’s purported BIOS “fix” is no fix at all. The BIOS fix does nothing to repair or replace the defective NVIDIA GPUs. Instead, the BIOS “fix” further degrades the functionality of the defective Class Computers in an attempt to postpone complete system failure until after the OEM’s warranty expires.

52. On August 19, 2008, *The Wall Street Journal* reported that consumers are not satisfied with the BIOS updates:

Nvidia Corp. often gets good reviews for its technology. But the way the chip maker and two computer manufacturers are handling a product defect hasn’t pleased some critics, adding to a series of headaches for the Silicon Valley company.

The problem affects an undisclosed number of laptop computers, stopping them from booting up, causing display screens to go dark and other



problems. Nvidia has traced it to packaging materials used on some chips that manage graphics and other functions, which can fail if they get too hot. The company disclosed the problem last month and is taking a \$196 million reserve to cover computer makers' costs in addressing it.

***Nvidia hasn't recalled the affected chips or identified which models have problems. Dell Inc. and Hewlett-Packard Co., the two customers that have so far announced plans for coping with the problem, said they won't repair affected laptops until they fail.***

The PC makers instead recommend updating internal software -- known as BIOS, for basic input-output system -- to adjust the speed of a laptop's cooling fan. ***That change doesn't guarantee the systems won't fail but is expected to reduce the likelihood of failure....***

But some consumers who posted complaints on Web message boards don't seem satisfied with the BIOS fix, knowing they own computers that could stop working. "I hope Dell realizes that people will not be happy until their graphics cards are replaced," wrote one customer on the computer maker's site. Added another: "I did not pay for a high-end logic bomb."

(Emphasis added.)

53. On August 13, 2008, TechSpot.com stated that NVIDIA's response to the defect is wholly inadequate:

Yesterday, it was speculated that there were manufacturing defects in the G92 and G94 chipsets, on top of the already known bad parts in the G84 and G86 series. Nvidia may have tried to avoid blame here and there, but ultimately it is coming down on them and they have been stuck with warranty replacements galore. ***Even if the newer chipsets are fine, it doesn't do anything to remedy the mass amounts of defective ones already sold.***

(Emphasis added.)

54. The NVIDIA GPU defect manifests itself in all Class Computers to varying degrees. For example, under normal use the defect causes the Class Computers to generate excessive heat, which forces the system fan to run more often, increasing ambient noise and reducing battery life. Excessive heat also affects other internal components like the CPU, which will "throttle down," decreasing overall system performance. The defective GPUs also cause damage to other system components such as the motherboard. The defect results in the inability of Plaintiffs and Class members to use their Class Computers for their intended purposes.

55. Thus, NVIDIA caused substantial harm and injury to Plaintiffs and to Class members. NVIDIA refuses to remedy the harm consumers suffered by replacing the defective

1 NVIDIA GPUs and MCPs in consumers' computers with properly engineered, manufactured and  
2 functioning graphics chips.

### 3 CLASS ACTION ALLEGATIONS

4 56. Plaintiffs bring this class action pursuant to Rule 23 of the Federal Rules of Civil  
5 Procedure on their own behalf and on behalf of all others who purchased at retail a Class  
6 Computer equipped with an NVIDIA GPU within the last four years. Excluded from the Class is  
7 Defendant, any entity that has a controlling interest in Defendant and Defendant's current or  
8 former directors, officers and counsel. Any claims for personal injury are expressly excluded  
9 from this class action.

10 57. Plaintiffs meet the prerequisites to bring this action on behalf of the Class  
11 because:

12 (a) Numerosity: The Class is so numerous that joinder of all members as  
13 individual plaintiffs is impracticable. While the exact number of Class members is unknown and  
14 can only be ascertained via discovery, Plaintiffs believe that there are hundreds of thousands of  
15 Class members.

16 (b) Commonality: There are questions of law and fact common to the Class,  
17 including:

18 (i) Whether Defendant has violated Cal. Bus. & Prof. Code §§ 17200  
19 *et seq.*

20 (ii) Whether Defendant has violated the Song-Beverly Consumer  
21 Warranty Act, Cal. Civ. Code §§ 1792 *et seq.*

22  
23 (iii) Whether Defendant has violated the Magnuson-Moss Warranty  
24 Act, 15 U.S.C. §§ 2301 *et seq.*

25 (iv) Whether Defendant has violated the New Jersey Consumer Fraud  
26 Act, N.J. Stat. Ann. §§ 56:8-1 *et seq.*

1 (v) Whether Defendant is strictly liable for the damages caused by the  
2 defective NVIDIA GPUs;

3 (vi) Whether Defendant has violated California's Consumer Legal  
4 Remedies Act ("CLRA"); and

5 (vii) Whether, because of Defendant's misconduct, Plaintiffs and the  
6 Class are entitled to damages, restitution, equitable relief or other relief, and the amount and  
7 nature of such relief.

8 (c) Typicality: Plaintiffs' claims are typical of the claims of the Class because  
9 Plaintiffs and members of the Class each sustained damages arising out of Defendant's wrongful  
10 conduct as complained of herein; and

11 (d) Adequacy: Plaintiffs will fairly and adequately protect the interests of the  
12 Class. Plaintiffs have no interests that are antagonistic to, or in conflict with, the interests of the  
13 Class as a whole, and have engaged competent counsel, highly experienced in class actions and  
14 complex litigation.

15 58. A class action is superior to all other available methods for this controversy  
16 because: (a) the prosecution of separate actions by the members of the Class would create a risk  
17 of adjudications with respect to individual members of the Class that would, as a practical  
18 matter, be dispositive of the interests of the other members not parties to the adjudications, or  
19 substantially impair or impede their ability to protect their interests; (b) the prosecution of  
20 separate actions by the members of the Class would create a risk of inconsistent or varying  
21 adjudications with respect to the individual members of the Class, which would establish  
22 incompatible standards of conduct for Defendant; (c) Defendant acted or refused to act on  
23 grounds generally applicable to the Class; and (d) questions of law and fact common to members  
24 of the Class predominate over any questions affecting only individual members, and a class  
25 action is manageable and superior to other available methods for the fair and efficient  
26 adjudication of the controversy.

**COUNT I**

**(By Plaintiffs, Individually and on Behalf of All Class Members for Violations of California Bus. & Prof. Code §§ 17200 *et seq.*)**

59. Plaintiffs hereby incorporate all the above allegations by reference as if fully set forth herein.

60. NVIDIA's practices as alleged in this Complaint constitute unlawful and unfair business acts and practices under California's Unfair Competition Law ("UCL"), Bus. & Prof. Code §§ 17200 *et seq.*

61. The circumstances giving rise to Plaintiffs' and Class members' allegations, including the design, development and marketing of the defective NVIDIA GPUs, occurred in the State of California. Additionally, NVIDIA maintains its corporate headquarters in Santa Clara, California. Accordingly, application of California law is appropriate.

62. By engaging in the above-described acts and practices, Defendant has committed one or more acts of unfair competition within the meaning of Bus. & Prof. Code §§ 17200 *et seq.*

63. Defendant committed "unlawful" business acts and practices by:

(a) engaging in conduct that violates California's Consumer Legal Remedies Act, Civil Code §§ 1770(a)(5) and (a)(7);

(b) engaging in conduct that violates California's Song-Beverly Consumer Warranty Act, Civil Code §§ 1792 *et seq.*;

(c) engaging in conduct that violates the Magnuson-Moss Warranty Act, 15 U.S.C. §§ 2301 *et seq.*;

(d) engaging in negligent conduct; and

64. NVIDIA committed "unfair" business acts and practices by:

(a) engaging in conduct where the utility of such conduct, if any, is outweighed by the gravity of the consequences to Plaintiffs and to other Class members;

(b) engaging in conduct that is immoral, unethical, oppressive, unscrupulous, or substantially injurious to Plaintiffs and to other Class members; and

1 (c) engaging in conduct that undermines or violates the spirit or intent of the  
 2 Magnuson-Moss Warranty Act, 15 U.S.C. §§ 2301 *et seq.* and the other consumer protection  
 3 laws detailed herein.

4 65. Specifically, NVIDIA engaged in “unfair” business acts and practices by selling  
 5 defective NVIDIA GPUs that, during normal operation, experienced overheating, causing  
 6 decreased battery life, degradation in performance of other internal components, excessive  
 7 ambient noise, and video display problems, including without limitation the display of random  
 8 characters, multiple or fuzzy images, horizontal or vertical lines, or grey or black screens.  
 9 Thereafter, NVIDIA distributed a “fix” that did not fix the defect at all, was dangerous to install,  
 10 or was designed primarily to forestall more significant failures until after the OEM’s warranty  
 11 expiration period.

12 66. Plaintiffs and Class members have suffered injury in fact and have lost money and  
 13 property as a result of Defendant’s unlawful and unfair practices, in that, among other things:

14 (a) Plaintiffs and Class members would not have bought or leased the Class  
 15 Computers at the price that they did;

16 (b) Plaintiffs and Class members’ computers have a lower market value than  
 17 they otherwise would have if not for the defective NVIDIA GPUs;

18 (c) Plaintiffs and Class members have paid for repairs and replacement parts  
 19 that they would not and should not have paid for; and

20 (d) Plaintiffs and Class members were denied their right to receive property  
 21 free from defect.

22 67. Plaintiffs and Class members seek declaratory and injunctive relief, restitution  
 23 and disgorgement of all profits obtained by Defendant from the unfair competition alleged herein  
 24 and other relief as appropriate.  
 25  
 26  
 27  
 28

**COUNT II**

**(By Plaintiff Robinson, Individually and on Behalf of All Class Members Who Purchased a Class Computer in the State of California for Breach Of Implied Warranty Under the Song-Beverly Consumer Warranty Act, Cal. Civ. Code §§ 1792 *et seq.*)**

68. Plaintiff Robinson hereby incorporates all the above allegations by reference as if fully set forth herein.

69. Under California's Song-Beverly Consumer Warranty Act, Civ. Code §§ 1792 *et seq.*, every sale of consumer goods in the State of California is accompanied by both a manufacturer's and retail seller's implied warranty that the goods are merchantable.

70. The defective NVIDIA GPUs at issue are "consumer goods" within the meaning of Cal. Civ. Code §1791(a).

71. Defendant NVIDIA is a "manufacturer" within the meaning of Cal. Civ. Code §1791(j).

72. Plaintiff Robinson bought at retail a Class Computer equipped with an NVIDIA GPU in the State of California.

73. At the time of sale, Defendant was in the business of manufacturing and selling the NVIDIA GPUs.

74. By operation of law, Defendant impliedly warranted to Plaintiff Robinson and all Class members who purchased a Class Computer in the State of California that the NVIDIA GPUs were of merchantable quality and fit for the ordinary purposes for which the GPUs are used.

75. NVIDIA had reason to know at the time of sale that the NVIDIA GPUs were required for a particular purpose and that Plaintiff Robinson and all Class members who purchased a Class Computer in the State of California were relying on NVIDIA's skill or judgment to select or furnish such goods.

76. Defendant refuses to recognize or honor its implied warranties. Defendant breached its implied warranties as the defective NVIDIA GPUs were not of merchantable quality and failed to perform in the ordinary purposes for which they were used.

77. As a proximate result of Defendant's breach of implied warranties, Plaintiff Robinson and all Class members who purchased a Class Computer in the State of California have sustained damages and other losses in an amount to be determined at trial. Plaintiff Robinson and these Class members are entitled to recover damages as provided by statute, costs, attorneys' fees, rescission and other relief as is deemed appropriate.

### COUNT III

**(By Plaintiffs, Individually and on Behalf of All Class Members for Breach Of Warranty Under Magnuson-Moss Warranty Act, 15 U.S.C. §§ 2301 *et seq.*)**

78. Plaintiffs hereby incorporate all the above allegations by reference as if fully set forth herein.

79. The defective Class Computers at issue are "consumer products" within the meaning of the Magnuson-Moss Act, 15 U.S.C. § 2301(1).

80. Plaintiffs and Class members are "consumers" within the meaning of the Magnuson-Moss Act, 15 U.S.C. § 2301(3).

81. Defendant NVIDIA is a "supplier" and "warrantor" within the meaning of the Magnuson-Moss Act, 15 U.S.C. § 2301(4)-(5).

82. Defendant impliedly warranted to Plaintiffs and Class members that the NVIDIA GPUs were of merchantable quality and fit for the ordinary purposes for which the GPUs are used.

83. Defendant refuses to recognize or honor its implied warranties. Defendant breached its implied warranties as the defective NVIDIA GPUs were not of merchantable quality and failed to perform in the ordinary purposes for which they were used.

84. The amount in controversy of each Plaintiff and Class member's individual claim meets or exceeds the sum or value of \$25. In addition, the amount in controversy meets or exceeds the sum or value of \$75,000 (exclusive of interest and costs) computed on the basis of all claims to be determined in this suit.









1           107. The circumstances giving rise to Plaintiffs' and Class members' allegations,  
2 including the design, development and sale of the NVIDIA GPUs, occurred in the State of  
3 California. Additionally, NVIDIA maintains its corporate headquarters in Santa Clara,  
4 California. Accordingly, application of California law is appropriate.

5           108. The NVIDIA GPUs are "goods" within the meaning of Cal. Civ. Code § 1761(a).

6           109. Plaintiffs and each member of the Class are "consumers" within the meaning of  
7 Cal. Civ. Code § 1761(d).

8           110. NVIDIA's deceptive acts and practices occurred in the course of selling a  
9 defective consumer product.

10           111. NVIDIA has admitted its NVIDIA GPUs failed to perform in accordance with  
11 their specifications, contained a common defect and, as result were not of merchantable quality.

12           112. NVIDIA had exclusive knowledge of undisclosed material facts, *i.e.* that the  
13 NVIDIA GPUs were defective, which was not known to Plaintiffs or the Class.

14           113. NVIDIA engaged in unfair acts and practices by withholding these material facts  
15 from Plaintiffs and the Class.

16           114. Plaintiffs and the Class were not aware of the defective NVIDIA GPUs at the time  
17 of sale.

18           115. Had Plaintiffs and Class members known of the defective NVIDIA GPUs, they  
19 would not have purchased the Class Computers.

20           116. Defendant has violated the CLRA by engaging in the above unfair acts and  
21 practices, which results in the following violations:

22                   (a) In violation of § 1770(a)(5), Defendant has represented that the NVIDIA  
23 GPUs have characteristics, uses and benefits that they do not have; and

24                   (b) In violation of § 1770(a)(7), Defendant has represented that the NVIDIA  
25 GPUs are of a particular standard, quality or grade when they are not.

26           117. As a proximate result of NVIDIA's unfair acts and practices, Plaintiffs and Class  
27 members suffered damages in purchasing Class Computers containing the defective NVIDIA  
28

GPUs. As alleged above, notice was sent to Defendant prior to asserting a claim for damages under the CLRA, which notice was ignored. Thus, Class members are entitled to all remedies available under Cal. Civ. Code §1780.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiffs and all Class members pray that this Court:

- A. Certify this action as a Class Action under Rule 23;
- B. Order Defendant to pay Plaintiffs and Class members an amount of actual, direct, incidental, consequential, statutory and exemplary damages to be determined at trial;
- C. Issue an injunction preventing Defendant from selling the defective NVIDIA GPUs;
- D. Award pre- and post-judgment interest;
- E. Award attorney's fees and costs of suit pursuant to, *inter alia*, Cal. Code of Civ. Pro. § 1021.5 and 15 U.S.C. §§ 2301 *et seq.*;
- F. For such other and further relief this Court may deem just and proper

**DEMAND FOR JURY TRIAL**

Plaintiffs demand a trial by jury on all issues so triable.

DATED: December 14, 2009

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CERTIFICATE OF SERVICE

I hereby certify that on December 14, 2009, I electronically filed the foregoing with the Clerk of the Court by using the CM/ECF system.

Participants in the case who are registered CM/ECF users will be served by the CM/ECF system.

I further certify that some of the participants in the case are not registered CM/ECF users. I have mailed the foregoing document by First-Class Mail, postage prepaid to the non-CM/ECF participants indicated on the attached Manual Notice List.

I certify under penalty of perjury that the foregoing is true and correct. Executed on December 14, 2009.

  
MATT BOWMAN

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